1. Approving Civil Aviation Authority/Country	2. AUTHORIZED RELEASE CERTIFICATE FORM ONE	3.Form Tracking No.
Transport Canada		

4. Organization Name and Address	5. Work Order/Contract/Invoice
AERO Design Ltd. – 9888A Malaspina Road, Powell River, BC, V8A 0G3	WO 2014-22

6. Item	7. Description	8. Part Number	9. Qty.	10. Serial/Batch No.	11. Status/Work
	LH Cargo Basket	90610-01-02	1	90602-15	New

12. Remarks

Black

13a. Certifies that the items identified above were manufactured in conformity to:	14a. ☐ CAR 571.10 Maintenance Release
☒ Approved design data and are in condition for safe operation.	☐ Other regulation specified in block 12
☐ Non approved design data specified in block 12.	Certifies that unless otherwise specified in block 12, the work identified in block 11 and described in block 12, has been performed in compliance with the *Canadian Aviation Regulations*.

13b. Signature	13c. Approved Organization Number	14b. Signature	14c. Approved Organization Number
AD02	AMF 73-04		
13d. Name	**13e. Date (dd/mmm/yyyy)**	**14d. Name**	**14e. Date (dd/mmm/yyyy)**
Jeff Clarke	21 Mar 2014		

Installer Responsibilities

This certificate does not constitute authority to install.

Installers working in accordance with the national regulations of a country other than that specified in block 1 must ensure that their regulations recognize certifications from the country specified.

Statements in blocks 13a or 14a do not constitute installation certification. In all cases, the technical record for the aircraft must contain an installation certification issued in accordance with the applicable national regulations before the aircraft may be flown.

AA / CHEENA

CARGO BASKET HOOP FABRICATION - 49210

General

These instructions apply to cargo basket hoop 49210-02 and derivatives that use it as stock. Refer to the following drawings, at the current revision, for dimensions and details:

49210, Revision 1 – Basket Component - Hoop

Notes

1. Always bend 1 hoop start to finish to ensure stops and stock length are correct.
2. Always pull with consistent speed through the bend, do not stop during the pull, and do not over-pull once the stop is reached.

Work Order: 2014-22

Date Open: 06 MAR 2014

Complete (initial or SCA #)

1. Hoop Fabrication – 49210-02 — AOG

    a. Cut ½" x 0.035 material to 48.0", square ends.
    b. Record material PO on attached material list.
    c. De-burr cut ends using a sanding disc on a die-grinder or disc sander.
    d. Remove writing on tubes with acetone and scotch bright.
    e. On the hoop bending fixture, set the following stops:
        i. Upper tube stop: 19?"
        ii. Lower bend stop: 12mm
    f. Slide stock tube through bending die up to upper stop. Rotate bending arm clockwise until tube is secure, ready to bend. Ensure tube remains tight to upper stop.
    g. Slide shim all the way forward on bender to secure tube in die
    h. Pull bending arm clockwise until stop is reached. Pull slowly with consistent pressure.
    i. Check tube bend for square using a hoop jig or carpenters square. Adjust stops if required.
    j. Repeat steps f.-i. for opposite end of tube.
    k. Check for:
        i. hoop height: 15.5" (Outside to outside)
        ii. hoop width just above bends: 22" (outside to outside)
        iii. adjust upper stop for height if required
        iv. adjust stock length for width if required
        v. twist – due to pulling bending arm up or down through bend
    l. Drill #30 vent holes in bottom centre of hoop in fore/aft direction. De-burr with scotch-brite disc on die-grinder.
    m. Inspect hoops for conformity to drawing.
    n. Tag complete and inspected hoop(s) and place into stock.

CARGO BASKET HOOP FABRICATION - 90621

General

These instructions apply to cargo basket attachment hoop 90621-01-XX (-01 right, -02 left). Refer to the following drawings, at the current revision, for dimensions and details:

90621, Revision 0 – Attachment Hoop
84262, Revision 1 – Handle Bracket Assembly

Notes

1. Always bend 1 hoop start to finish to ensure stops and stock length are correct.
2. Always pull with consistent speed through the bend, do not stop during the pull, and do not over-pull once the stop is reached.

Work Order: 2014-22

Date Open: 06 MAR 2014

Complete (initial or SCA #)

1. ½ Hoop Fabrication – ½" hoop — AOL
   a. Cut ½" x 0.035 material to 21.0", square ends.
   b. Record material PO on attached material list.
   c. De-burr cut ends using a sanding disc on a die-grinder or disc sander.
   d. Remove writing on tubes with acetone and scotch bright.
   e. On the hoop bending fixture, set the following stops:
      i. Upper tube stop: ??"
      ii. Lower bend stop: 12mm
   f. Slide stock tube through bending die up to upper stop. Rotate bending arm clockwise until tube is secure, ready to bend. Ensure tube remains tight to upper stop.
   g. Slide shim all the way forward on bender to secure tube in die
   h. Pull bending arm clockwise until stop is reached. Pull slowly with consistent pressure.
   i. Check tube bend for square using a hoop jig or carpenters square. Adjust stops if required.
   j. Check for:
      i. hoop height: 15.5" (Outside to outside)
      ii. adjust upper stop for height if required

2. ½ Hoop Machining – ½" hoop – 84262-01 — AOL
   a. Start with ½" half hoop from step 1.
   b. Setup manual milling machine with specific hoop vise jaw. Set XY 0 on far, right edge of jaw (end of hoop).
   c. Drill 2 places, 5/16" (0.313) holes using 5/16" (#4) centre drill through both sides in accordance with drawing. Run at 500 RPM. Apply a few drops of Rapid-Tap cutting oil to each location before drilling.
      i. locate 0.23" from edge (within tolerance specified on drawing).
   d. Wipe or blow off cutting oil and de-burr with scotch-brite disc on die-grinder.
   e. Tag in process hoop(s) and place into stock.

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(initial or SCA #)

3. ½ Hoop Fabrication – 1" hoop — AD06
    a. Cut 1" x 0.065 material to 32.0", both end square.
    b. Record material PO on attached material list.
    c. De-burr cut ends using a sanding disc on a die-grinder or disc sander.
    d. Remove writing on tubes with acetone and scotch bright.
    e. On the hoop bending fixture, set the following stops:
        i. Upper tube stop: ??"
        ii. Lower bend stop:??
    f. Slide stock tube through bending die up to upper stop. Rotate bending arm clockwise until tube is secure, ready to bend. Ensure tube remains tight to upper stop.
    g. Slide shim all the way forward on bender to secure tube in die
    h. Using a long snipe tube, pull bending arm clockwise until stop is reached. Pull slowly with consistent pressure.
    i. Check tube bend for angle using hoop jig. Adjust stops if required.
    j. Check for:
        i. hoop height 16"
        ii. adjust upper stop for height if required
        iii. length to allow 60 degree cut.
    k. Using hoop jig, mark for 60 degree cut on bottom end. Cut to length.
    l. De-burr cut end using a sanding disc on a die-grinder or disc sander.

4. ½ Hoop Machining – 1" hoop — AD06
    a. Start with 1" ½ hoop as stock.
    b. Setup manual milling machine with standard steel vise jaws. Insert hoop into vise flat on bottom of vise. Set X 0 on edge of hoop (end of hoop). Shift X along hoop 0.75" and set X 0. Set stop against end of tube. Rotate milling head 5 degrees in or out as required for right or left side.
    c. Drill two places, 5/8" (0.625) holes using 5/8" (#7) centre drill through both sides in accordance with drawing. Apply a few drops of Rapid-Tap cutting oil to each location before drilling. Ensure edge of hole to edge of tube is 0.23" as indicated on drawing.
    d. Wipe or blow off cutting oil and de-burr with scotch-brite disc on die-grinder.
    e. Set tube in vise with 60 degree end on right.
    f. Using ½" coated carbide end mill, mill slot 2.25" deep (edge to edge, 2.0 edge to centre). Apply a bead of Rapid-Tap cutting oil along cut line before milling.
    g. Wipe or blow off cutting oil and de-burr with scotch-brite disc on die-grinder.
    h. Tag in process hoop(s) and place into stock.

5. Joint Preparation — AD06
    a. Set 1" hoop in hoop jig. Insert ½" hoop into 1" hoop, against side stop of jig. Mark slot location in 1" hoop onto ½" hoop. Trim ½" hoop with vertical bandsaw if required, and shape to match slot with disc sander.

6. Welding – Lugs — AD-05 ~~AD06~~ AW
    a. Insert two 90621-05 lugs into holes in 1" hoop. Set short side to 0.06" above surface of tube. Attach 11" spacing jig with 3/8-24 bolts to lugs.
    b. TIG weld all around outside of lugs. 2 places.

Complete
(initial or SCA #)

c. Grind lugs flush with inside of tube.
d. TIG weld all around inside of lugs. 2 places.
e. Record lug and welding rod PO/WO on attached material list. ADU

7. Welding – Handle Bushings – 84262-01 AD-05
   a. Insert 84271-01 bushings into ½" hoop prepared in step 2. above.
   b. TIG weld bushing both sides, 2 bushings per hoop.
   c. Record bushing and welding rod PO/WO on attached material list.

8. Welding – Hoop Assembly AD-05
   a. Insert 1" hoop from step 6 and ½" hoop from step 7 into hoop jig. Seat ½" hoop into slot in 1" hoop.
   b. Tack weld hoops together, minimum 4 places, to hold hoop together to complete welds out of jig.
   c. TIG weld around ½" hoop in slot.
   d. Cap ½" – 1" tube joint with 76423-04 cap. TIG weld around cap.
   e. Record cap and welding rod PO/WO on attached material list.

9. Finishing and Inspection ~~ADU~~
   a. Run 3/8-24 tap through welded lugs.
   b. Grind inside surfaces flush at lugs and slot in 1" tube.
   c. Inspect hoop for conformity to drawing.
   d. Tag complete and inspected hoop(s) and place into stock.

CARGO BASKET HOOP FABRICATION - 90622

General

These instructions apply to cargo basket forward attachment hoop 69821-01. Refer to the following drawings, at the current revision, for dimensions and details:

49210, Revision 1 – Basket Component - Hoop
90622, Revision 0 – Forward Attachment Hoop

Notes

1. Always bend 1 hoop start to finish to ensure stops and stock length are correct.
2. Always pull with consistent speed through the bend, do not stop during the pull, and do not over-pull once the stop is reached.

Work Order: 2014-22 **Complete** (initial or SCA #)

Date Open: 06 MAR 2014

1. Forward Attachment Hoop – Preparation – 90622-01-XX AOL
   a. Start with 49210-02 hoop as stock.
   b. Setup manual milling machine with standard steel vise jaw. Set XY 0 on far, right edge of hoop (end of hoop). Shift X along hoop 7.25" and set X 0. Rotate milling head 5 degrees in or out as required for right or left side.
   c. Using 5/8" (0.625) end mill, mill into side of tube in accordance with drawing. Apply a few drops of Rapid-Tap cutting oil to each location before milling.
   d. Wipe or blow off cutting oil and de-burr with scotch-brite disc on die-grinder.
   e. Cut hoop at 9.10" high, at 36.5 degrees as indicated on drawing 90611.
   f. Align milling head to vertical or flag machine.
   g. Tag in process hoop(s) and place into stock.

2. Forward Attachment Hoop – Welding – 90622-01-XX AOL
   a. Attach two 69823-02 lugs to 4.5" spacing jig using 3/8-24 bolt. Align lugs to slots in hoop prepared in step 1. above. Centre bolts on hoop.
   b. TIG weld lugs into hoop. Weld all around both lugs.
   c. Record lug and welding rod PO/WO on attached material list.
   d. Tag in process hoop(s) and place into stock.

3. Forward Attachment Hoop – Finish – 90622-01-XX AOL
   a. Run 3/8-24 tap through welded lugs.
   b. Inspect hoop for conformity to drawing.
   c. Tag complete and inspected hoop(s) and place into stock.

Work Order: 2014-22

Date Opened: 06 MAR 2014

Material Tracking Sheet
Robinson R44
Hoops Fabrication

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
Step 1			**49210-02**	**Hoop - standard**	4130 Steel, ½" x 0.035 Sqr. Tube	14009
Step 1			**49210-02**	**Hoop - with handle provisions**	4130 Steel, ½" x 0.035 Sqr. Tube	14009
Step 2				*Welding*		
	. 2	84262	84272-01	Bushing	4130 Steel, 5/16" x 0.058 Rnd. Tube	13993
	. A/R		--	Welding Rod	ER70S-2	
Step 3				*Inspection*	*None*	
Step 1			**90622-01-_____**	**Hoop - attachment**	(-01 RH, -02 LH)	
	. 1		--	1/2" Tube - hoop	4130 Steel, ½" x 0.035 Sqr. Tube	14009
Step 2				*Welding*		
	. 2		69823-02	Lug	1018 Steel, 5/8" Rod	
	. A/R		--	Welding Rod	ER70S-2	
Step 3				*Finishing and Inspection*	*None*	

Work Order: 2014-22

Date Opened: 06 MAR 2014

Material Tracking Sheet
Robinson R44
Hoops Fabrication

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
			90621-01-_____	**Hoop - attachment (aft)**	(-01 RH, -02 LH)	
Step 1				*1/2 Hoop Fabrication - 1/2" hoop*		14009
	. 1		--	1/2" Tube - hoop	4130 Steel, ½" x 0.035 Sqr. Tube	14009
Step 2				*Machining*	*None*	
Step 3				*1/2 Hoop Fabrication - 1" hoop*		
	. 1		--	1" tube - hoop	4130 Steel, 1" x 0.065 Sqr. Tube	14014
Step 4				*Machining*	*None*	
Step 5				*Joint Preparation*	*None*	
				Welding		
Step 6	.2		90621-05	Lug	1018 Mild Steel, 5/8" Dia.	
Step 7	. 2	84262	84272-01	Bushing	4130 Steel, 5/16" x 0.058 Rnd. Tube	13023
Step 8	. 1		76423-04	Cap	1018 Mild Steel, 0.050" Sheet	~~13023~~ NR
	. A/R		--	Welding Rod	ER70S-2	
Step 9				*Finishing and Inspection*	*None*	

CARGO BASKET BODY FABRICATION - COMMON

2014-22
R44 LH

General

These instructions apply to all cargo basket body assemblies. Refer to the following drawings, at the current revision, for dimensions and details:

Bell 206L/407 – Right side only
69811, Revision 3 – Standard Low Mounted Basket
94511, Revision 0 – Extra-Wide Low Mounted Basket
94611, Revision 0 – Extra-Wide Low Mounted Ski Basket
76611, Revision 0 – High Mounted Ski Basket
Options 70404, Revision 2 – Front end cutout – 698
70411, Revision 0 – Front end cutout – 945/946

Eurocopter AS350/AS355 – left or right
77611, Revision 1 – Short Basket
76411, Revision 3 – Medium Basket (left or right)
78411, Revision 2 – Long Basket
94011, Revision 0 – Extra Large (ski) Basket
Options 70406, Revision 2 – Front end cutout – 764/776/784/940

Robinson R44 – left or right
→ 90611, Revision 0 – Standard Basket (left or right)

Bell 206B – right side only
80211, Revision 0 – Short Basket
80311, Revision 0 – Medium Basket
81111, Revision 0 – Long Basket
Options 70406, Revision 2 – Front end cutout – 802/803/811

Bell 429 – right or left
95911, Revision 0 – Standard Basket

Bell Medium – left or right
75111, Revision 0 – Standard Basket
95511, Revision 0 – Extra Large (ski) Basket
Options 70407, Revision 1 – Front end cutout – 751
704 , Revision – Front end cutout – 955

MD600
82811, Revision 0 – Standard Basket

Options – Applicable to all models
70403, Revision 5 – Auxiliary Latch

CARGO BASKET BODY FABRICATION - COMMON

Complete
(initial or SCA #)

Work Order: 2014-22

Date Open: 06 MAR 2014

1. Rim Assembly – Basket Body — AD06
    a. Cut and fit ¾" x 0.035 material to fit rim jig.
        i. 1 or 2 lid prop bushing holes in short tube – refer to drawing
    b. Record material PO on attached material list.
    c. Remove writing on tubes with acetone and scotch bright.
    d. For extra large baskets – drill #30 (0.129) vent holes to vent stringer tubes into rims.
    e. *94611 (206L/407 XL ski) only* – drill for 4 threaded bushings before assembling rim.

2. Weld Rim Assembly. — AD-05
    a. Record welding rod PO on attached material list.
    b. *94611 (206L/407 XL ski) only* – weld 4 threaded bushings into inboard rim tube.

3. Inspection — AD06
    a. Rim for complete welds

4. Frame assembly – body — AD06
    a. General
        i. Vent holes shall be #30 (0.129), and located inside the structure wherever possible to allow venting of weld gasses through existing holes (i.e. lid prop bushing, hoops, etc.)
    b. Grind corner welds from step 2 on rim to allow hoops to sit flat.
    c. Pull required hoops from stock - standard, attachment, handle.
        i. If hoops are not in stock see detailed procedure sheet for specific hoop fabrication.
        ii. Ensure vent hole is located at centre of tube to vent spine tubes.
    d. Assemble hoops with attachment lug locating jig and hoop spacing jig.
        i. Ensure correct order and orientation of hoops. Refer to drawing.
            1. Attachment lugs are on inboard side.
            2. Handle bracket bushings are on outboard side, second hoop from both ends. May be on attachment hoops.
        ii. Run 3/8-24 tap into attachment lugs to ensure clear threads.
        iii. Bolt attachment lug locating jig to attachment hoops with 3/8-24 bolts.
        iv. Attach inboard and outboard hoop spacing jigs to all hoops using 1" C-clamps. Raise jigs approximately 2" off table to allow room to weld around hoops.
        v. Attach bottom (spine) jig to all hoops using 1" C-clamps along the centre line of the basket. Ensure jig is straight prior to tightening all clamps.
    e. Cut ½" x 0.035 material to fit spine jig.
    f. Cut ½" x 0.035 material for strut to fit from lower inboard attachment to upper outboard rim.
        i. Refer to applicable drawing for position, not required on some baskets.
    g. *Option*: Cut ½" x 0.035 material for front end cutout. Record material PO on attached material list.
    h. *90611 (R44) only*: Cut ½" x 0.035 material to fit front end structure. Record material PO on attached material list.
    i. Drill vent holes into attachment hoop and/or rim to vent strut(s) and front end cutout.

j. Record hoop WOs and material POs on attached material list.
k. Remove writing on tubes with acetone and scotch bright.
l. Insert rim assembly into jig and set frame assembly onto rim. Ensure correct orientation of lid prop bushings in rim to frame. Bushing hole must be closer to attachment side.
m. Align hoops to rim in accordance with drawing. General positions:
    i. Extra large baskets
        1. inboard side of hoops (attachment side) aligns to OUTSIDE of rim
        2. outboard side of hoops (handle side) aligns to INSIDE of rim
        3. forward and aft hoops align to INSIDE of rim
    ii. All other baskets
        1. inboard side of hoops (attachment side) aligns to INSIDE of rim
        2. outboard side of hoops (handle side) aligns to INSIDE of rim
        3. forward and aft hoops align to INSIDE of rim, except R44

5. TIG weld frame to rim assembly. AD-05
    a. Ensure lug locating jig and hoop locating jigs are in place. Jigs must remain in place for as long as practical during welding.
    b. Strut tubes and front end cutout (see step 4.f. and g.) must be welded in place after the hoops are welded to the rim. Jig(s) must be in place prior to welding strut tubes.
    c. Robinson R44 (90611) requires fitting and welding of forward end after remainder of basket frame is welded. Use jig to support front hoop.
    d. Record welding rod PO on attached material list.

6. Inspection _____
    a. Frame assembly for complete welds.

7. Mesh assembly. _____
    a. Pull sheet of expanded mesh from stock. Record material PO on attached material list.
    b. Cut mesh to size for body.
    c. Remove surface rust with scotch-brite.
    d. Bend body mesh – use table with bend markings on top. Lock wheels on table.
        i. For extra wide baskets only –
            1. Set ¾" angle along edge of table under mesh sheet. Set 1.5" square tube on top of mesh aligned with angle on edge of table. Clamp in place with 6" C-clamps.
            2. Bend upper edge of sheet just past a cell intersection to make a flange 2.5" - 3.25" wide. Closer to 2.5" is preferred, full cell intersection on flange side at bend is required.
            3. Bend down by hand as far as possible, then use a hammer to flatten the bend tight against the angle on the edge of the table.
        ii. Using markings on table, align sheet to indicated edge.
        iii. Using markings on table, align 3" tube to required position and clamp tube in place.
        iv. Bend mesh by hand tightly over tube along length of tube.
        v. Keeping mesh in place, un-clamp 3" tube, move to other position and clamp tube in place.
        vi. Bend mesh by hand tightly over tube along length of tube.
    e. Install attachment lug jig onto basket frame.

f. Ensure end struts are welded in basket frame if required by the drawing.
g. Insert mesh into basket.
    i. General
        1. Some cells may interfere with correct positioning, especially at the upper corners and around struts. Bend cell(s) in as required, do not cut cells off.
        2. Ideally welds will be located on mesh intersections. Shift mesh if possible to minimize welds located off mesh intersections.
        3. Ensure mesh reaches all edges of basket BEFORE trimming. Regardless of progress in clamping, remove clamps and shift mesh if required.
        4. Ensure cleco clamps are placed from the inside of the basket to allow removal during welding. Cleco clamps may be used from the outside during fitting, but must be removed prior to welding.
    ii. Extra large baskets only – seat corner of mesh with flange into inboard upper corner of frame. Use C-clamps on edge of flange as required to maintain tight fit.
    iii. Starting at inboard top edge of basket, clamp mesh to hoop near top rim using cleco clamps onto hoops. For regular size baskets, edge of mesh should sit approximately half way up rim tube.
    iv. Working down the inboard side, clamp mesh to hoops with cleco clamps. Clamp down into radius of hoop and continue clamping as required to maintain tight fit in corner of hoop. After the corners are tight, two clamps just onto the radius on both ends should be sufficient to hold the corner tight, remove all extra clamps.
    v. Clamp mesh to spine in at least 1 place per section.
    vi. Working up the outboard side, clamp the mesh into the radius of hoop and continue clamping as required to maintain tight fit in corner of hoop. After the corners are tight, 2 clamps just onto the radius on both ends should be sufficient to hold the corner tight, remove all extra clamps.
    vii. Trim upper outboard edge of mesh if required, edge of mesh must be low enough on rim tube to prevent the weld from protruding above the edge of the rim. Some sheets are tapered and may require ½ to 1 cell to be removed over some or all of the length of the basket. De-burr cut edges with a sanding disc on a die-grinder. Straighten cut cells with duck-bill pliers. Clamp mesh near upper edge to hoops with cleco clamps after trimming.
    viii. Trim ends to land on hoops, at mesh intersections if possible.
h. Cut mesh to fit ends. Record material PO on attached material list.
    i. Remove surface rust with scotch-brite.
    ii. Ensure mesh is cut at intersections where possible.
    iii. Bend top edge of mesh 1/8"-3/16" down at 45 degrees
    iv. Cut for front end cutout if required.
i. 90611 (R44) only: Cut mesh to fit upper forward end. Record material PO on attached material list.
    i. Remove surface rust with scotch-brite.
    ii. Ensure mesh is cut at intersections where possible.
    iii. Bend top edge of mesh 1/4" down at 60 degrees.
    iv. Fit mesh to front end of basket.

Complete
(initial or SCA #)

8. Weld mesh to frame assembly per drawing. AD-05
    a. Ensure lug locating jig is in place prior to welding.
    b. General welding requirements for all baskets, MIG welding:
        i. Every intersection at top edges.
        ii. Every intersection at ends.
        iii. First 5 intersections down on hoops, then every second intersection.
        iv. Every intersection along spine.
        v. Extra large baskets – every intersection along corner.
        vi. Every intersection around ends
        vii. Every intersection along struts (if applicable)
    c. Bend and trim cells bent in to fit mesh as required and weld in position.
    d. Grind high spots off body mesh welds on ends before welding end mesh.
    e. *90611 (R44) only* – weld lid prop bushing (step 9) into rim BEFORE welding upper mesh on forward end of basket assembly.
    f. Record welding rod PO on attached material list.

9. Weld basket components AD-05
    a. TIG weld lid prop bushing(s), one or two per drawing.
        i. Record welding rod PO on attached material list.
        ii. Record lip prop bushing WO on attached material list.
    b. TIG weld caps to close top of 1" hoops as applicable.
    c. 94611 (Bell206L/407 XL ski) only: cut rim over cross tube gap.
        i. Cut inboard rim on aft end. Grind flush with hoops.
        ii. TIG weld caps on open tubes.
        iii. Record cap material PO on attached material list.
    d. 95911 (Bell 429) only: placard bracket to forward upper corner of basket.
        i. Record welding rod PO on attached material list.
        ii. Record placard bracket WO on attached material list.

10. Clean up AD06
    a. Grind high spots off mesh welds.
    b. Tighten mesh using special pliers. Tighten enough to remove "oil canning", where mesh springs in or out. Do not tighten in corners of hoops, mesh will be deformed.
    c. Drill #9 through lid prop bushing(s). De-burr hole(s).
    d. Remove surface rust with scotch-brite pad.

11. Final Inspection
    To be completed by a different person than the previous steps.
    a. Basket body assembly for complete welds, and required minimum mesh weld locations.
    b. Filled vent holes – usually on hoops
    c. Overall condition and conformity to drawing(s).
        i. Hoops for height.
        ii. Rim for width and length and alignment.
        iii. Lid prop lugs in correct ends.
        iv. Fore/aft strut in hoop if required by drawing.
    d. Material lists complete.

Complete
(initial or SCA #)

e. Tag complete basket body assembly in preparation for powder coating.

12. Powder Coating — AOM

a. Parts are to be powder coated white in accordance with commercial practices.
b. Record powder coating PO.
c. Inspect powder coating on receiving.
d. Tag basket body assembly and place into stock in preparation for assembly.

Work Order: 2014-22

Date Opened: 06 MAR 2014

Material Tracking Sheet
Robinson R44
Basket Body Fabrication

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
	1		**90611-01-02**	**Basket Assembly**	(-01 RH, -02 LH)	
Step 1				*Rim Assembly*		
	. 2		--	3/4" Tube - Long Rim (55 5/8")	4130 Steel, ¾" x 0.035 Sqr. Tube	14009
	. 2		--	3/4" Tube - Short Rim (22.5")	4130 Steel, ¾" x 0.035 Sqr. Tube	14009
Step 2				*Weld Rim Assembly*		
	. A/R		--	Welding Rod	ER70S-2 TIG Rod	PO# 11122
Step 3				*Inspection - Rim*	*None*	
Step 4				*Frame Assembly*		
	. 2		49210-02	Hoop - standard	4130 Steel, ½" x 0.035 Sqr. Tube	12123
	. 1		49210-02	Hoop - with handle provisions	4130 Steel, ½" x 0.035 Sqr. Tube	12123
	. 1		90621-01-XX	Aft Attachment hoop		12123 / 13023
	. 1		90622-01-XX	Forward Attachmen Hoop		
	. 4		--	1/2" Tube - spine	4130 Steel, ½" x 0.035 Sqr. Tube	14009
	. 1		--	1/2" Tube - strut	4130 Steel, ½" x 0.035 Sqr. Tube	14009
	. 1		--	1/2" Tube - cross member (21")	4130 Steel, ½" x 0.035 Sqr. Tube	14109
Step 5				*Weld Frame Assembly*		
	. A/R		--	Welding Rod	ER70S-2 TIG Rod	PO# 11122
Step 6				*Inspection - Frame Assembly*	*None*	
Step 7				*Mesh Assembly*		
	. 1		--	Mesh (Body - 48" x 56")	3/4-16F Expanded Mild Steel sheet	12065
	. 1		--	Mesh (End - 22" x 15.5")	3/4-16F Expanded Mild Steel sheet	12065
	. 1		--	Mesh (End - 22" x 9")	3/4-16F Expanded Mild Steel sheet	12065
	. 1		--	Mesh (End - 22" x 21")	3/4-16F Expanded Mild Steel sheet	12065

Work Order: 2014-22

Date Opened: 06 MAR 2014

Material Tracking Sheet
Robinson R44
Basket Body Fabrication

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
Step 8				*Weld Mesh*		
	. A/R		--	Welding Rod	ER70S-6 MIG Wire	PO# 14005
Step 9				*Weld Basket Components*		
Step 9.a.	. 1		49215-01	Spacer (Lid prop)	304 Stainless Steel, ½" Dia.	WO # 2013-55
	. A/R		--	Welding Rod	ER308L TIG Rod	~~WO# 2013-55~~ PO# 14005
Step 9.b.	. 1		--	Cap	1018 Mild Steel, 0.032" Sheet	PO# 9010
	. A/R		--	Welding Rod	ER70S-2 TIG Rod	PO# 11122
Step 10				*Clean Up*	*None*	
Step 11				*Inspection - Final Assembly*	*None*	
Step 12				Powder Coating		

CARGO BASKET LID FABRICATION - COMMON

WO 2014-22
R44 LH w/w

General

These instructions apply to all cargo basket lid assemblies. Refer to the following drawings, at the current revision, for dimensions and details:

Bell 206L/407 – Right side only
69812, Revision 3 – Standard Low Mounted Basket; Extra-Wide Low Mounted Basket
94612, Revision 0 – Extra-Wide Low Mounted Ski Basket
76612, Revision 0 – High Mounted Ski Basket

Eurocopter AS350/AS355 – left or right
77612, Revision 1 – Short Basket
69812, Revision 3 – Medium Basket (left and right)
78412, Revision 2 – Long Basket
94012, Revision 0 – Extra Large (ski) Basket

Sent for powder

Robinson R44 – left or right
90612, Revision 0 – Standard Basket (left or right)

Bell 206B – right side only
80212, Revision 0 – Short Basket
80312, Revision 0 – Medium Basket
81112, Revision 0 – Long Basket

Bell 429 – right or left
95912, Revision 0 – Standard Basket

Bell Medium – left or right
75112, Revision 0 – Standard Basket
95512, Revision 0 – Extra Large (ski) Basket

MD600
82812, Revision 0 – Standard Basket

Options
70405, Revision 3 – Walkway
70402, Revision 1 – Lid Door

CARGO BASKET LID FABRICATION

Complete
(initial or SCA #)

Work Order: 2014-22

Date Open: 06 MAR 2014

1. Rim Assembly – Basket Lid — ~~AD~~ 06
   a. Cut and fit ¾" x 0.035 material to fit rim jig, 45 degree ends.
      i. 1 or 2 lid prop bushing holes in short tube – refer to drawing
   b. Record material PO on attached material list.
   c. Remove writing on tubes with acetone and scotch bright.

2. Weld Rim Assembly — AD-05
   a. Record welding rod PO on attached material list.

3. Inspection — AD06
   a. Rim for complete welds

4. Frame assembly – Lid — ~~AD~~ 06
   a. General
      i. Vent holes shall be #30 (0.129), and located inside the structure wherever possible to allow venting of weld gasses through existing holes (i.e. lid prop bushing)
   b. Insert rim from step 2 into jig.
   c. Cut and fit ¾" x 0.035 material, 21" long, for lid cross members.
   d. Record material PO on attached material list.
   e. Remove writing on tubes with acetone and scotch bright.
   f. Drill vent holes into rim to vent cross members into rim.
   g. Locate cross members in lid rim. Refer to drawing for spacing of cross members. Clamp cross members with C-clamps to jig.

5. Frame assembly – Lid with optional walkway modification — ~~AD~~ 06
   a. Fit cross members to rim in accordance with step 4.
   b. Attach walkway jig with C-clamps. Ensure correct orientation of rim, refer to drawing.
   c. Cut ½" x 0.035 material for walkway stringers to fit between lid cross members. Record material PO on attached material list.
   d. Drill vent holes into cross members at walkway stingers.
   e. Align walkway stringers on walkway jig using cleco clamps near both ends of each stringer, and clamp stringer to jig using a C-clamp in the centre.

6. Weld frame assembly. — AD-05
   a. Record welding rod PO on attached material list.
   b. Jigs must remain in place for as long as practical during welding.

7. Inspection — ~~AD~~ 06
   a. Frame assembly for complete welds.

8. Mesh assembly. ~~AD06~~

   Note: 95912 (Bell 429) does not have mesh. Skip to step 10.

   a. Pull sheet of expanded mesh from stock. Record material PO on attached material list.
   b. Cut mesh to size for lid.
   c. Remove surface rust with scotch-brite.
   d. Ensure lid is prepared for mesh on the correct side.

9. Weld mesh to frame assembly per drawing. AD-05

   a. General welding requirements for all lids:
      i. Every intersection on all edges.
      ii. First 5 intersections along cross members, then every second intersection.
   b. MIG weld both short sides.
   c. Clamp lid over spacer at centre of lid to pre-tension mesh.
      i. ¾" for lids under 76"
      ii. 1" (check) for lids over 76"
   d. Weld remainder of mesh as indicated in a.
   e. Record welding rod PO on attached material list.

10. Weld lid components. AD-05

   ✓ a. Handle brackets, locate in accordance with drawing.
      i. Standard location: ¼" outside of last cross member on both ends.
      ii. Record handle bracket WO and welding rod PO on attached material list.
   ✓ b. Lid prop bushing(s).
      i. one or two in accordance with drawing.
      ii. Record lip prop bushing WO and welding rod PO on attached material list.
   ✓ c. Placard bracket. – not installed on 95912 (Bell 429)
      i. Locate on cross member to set bracket in centre bay of lid.
      ii. Record placard bracket WO and welding rod PO on attached material list.

11. Clean up ~~AD06~~

   a. Grind high spots off mesh welds.
   b. Tighten mesh using special pliers. Tighten enough to remove "oil canning", where mesh springs in or out.
   c. Straighten lid using frame attached under welding table. Work carefully, avoid excessive force to prevent kinking rim tubes.
   d. Drill #9 through lid prop bushing(s). De-burr hole(s).
   e. Drill for lid bumpers using 1/4" (#3) centre drill.
      i. 3 places for lids under 76"
      ii. 4 places for lids over 76"
   f. Remove surface rust with scotch-brite pad.

12. Final Inspection

   To be completed by a different person than the previous steps. AD02

   a. Basket lid assembly for complete welds, and required minimum mesh weld locations.
   b. Material lists complete.
   c. Overall condition and conformity to drawing(s).

Complete
(initial or SCA #)

13. Powder Coating
    a. Parts are to be powder coated white in accordance with commercial practices. AOO6
    b. Record powder coating PO.
    c. Inspect powder coating on receiving.
    d. Tag lid assembly and place into stock in preparation for assembly.

Work Order: 2014-22

Date Opened: 06 MAR 2014

Material Tracking Sheet
Robinson R44
Lid Fabrication

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
			90612-01-_____	**Lid Assembly**	(-01 RH, -02 LH)	
Step 1				*Rim Assembly*		
	. 2		--	3/4" Tube - Long Rim (55 5/8")	4130 Steel, ¾" x 0.035 Sqr. Tube	14009
	. 2		--	3/4" Tube - Short Rim (22.5")	4130 Steel, ¾" x 0.035 Sqr. Tube	14009
Step 2				*Weld Rim Assembly*		
	. A/R		--	Welding Rod	ER70S-2 TIG Rod	PO# 11122
Step 3				*Inspection - Rim*	*None*	
Step 4				*Frame Assembly*		
	. 2		--	3/4" Tube - Cross Member (21")	4130 Steel, ¾" x 0.035 Sqr. Tube	14009
Step 6				*Weld Frame Assembly*		
	. A/R		--	Welding Rod	ER70S-2 TIG Rod	PO# 11122
Step 7				*Inspection - Frame Assembly*	*None*	
Step 8				*Mesh Assembly*		
	. 1		--	Mesh (lid - 55" x 22")	3/4-16F Expanded Mild Steel sheet	15078
Step 9				*Weld Mesh*		
	. A/R		--	Welding Rod	ER70S-6 MIG Wire	PO# 14005

Work Order: 2014-22

Date Opened: 06 MAR 2014

Material Tracking Sheet
Robinson R44
Lid Fabrication

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
Step 10				*Weld Lid Components*		
	. 1	84262	84262-01	Upper Handle Bracket Assembly		PO# 13004
	. . 4		36273-01	Lid Bracket	321 Stainless, 0.050 Sheet	
	. . 2		36275-02	Support	304 Stainless, 5/16" Rod	
	. A/R		--	Welding Rod	ER308L TIG Rod	PO# 14005
	. 1		49216-01	Spacer (Lid prop)	304 Stainless, ½" Dia.	WO# 2014-09
	. A/R		--	Welding Rod	ER308L TIG Rod	PO# 14005
	. 1		36204-10	Placard Bracket	1018 Steel, 0.035" Sheet	WO# 2014-18
	. A/R		--	Welding Rod	ER70S-2 TIG Rod	PO# 11122
Step 11				*Clean Up*	*None*	
Step 12				*Inspection - Final Assembly*	*None*	
Step 13				Powder Coating		

Aero Design

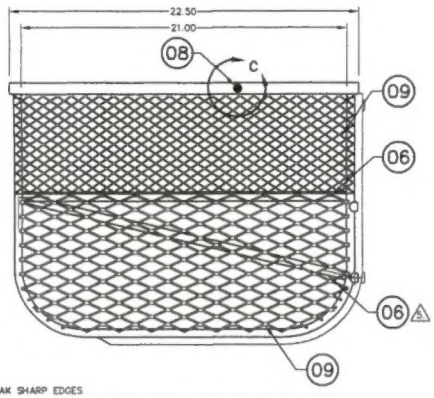
Parts Distribution Sheet

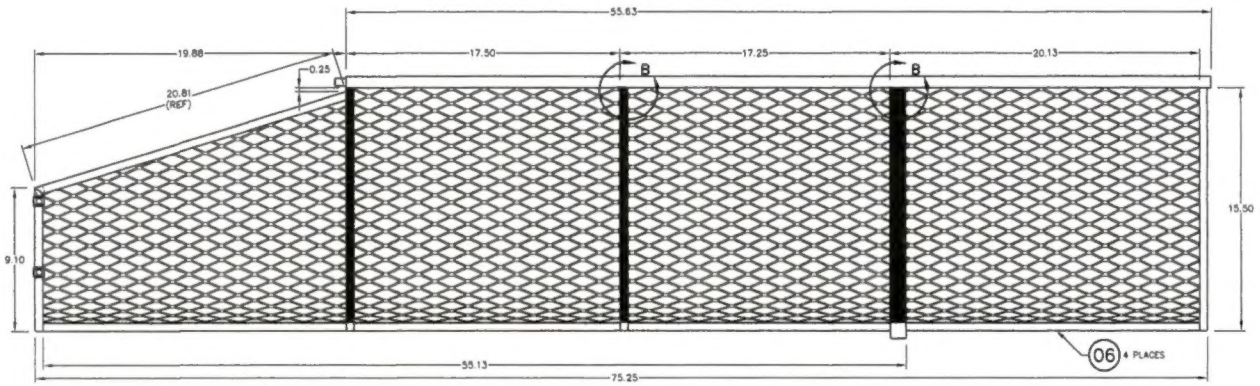
WO# 2014-22

From PO or WO #	Quantity	Description	Part Number	For WO #
See	Build	Sheets		

2014-22

REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		



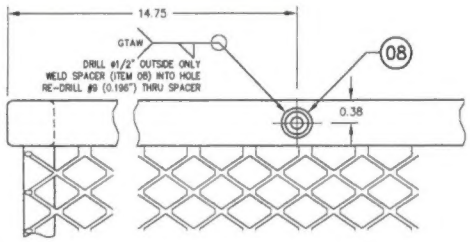


NOTES:
1. REMOVE ALL BURRS AND BREAK SHARP EDGES
2. PRIOR TO WELDING, DRILL 3/32 VENT HOLES IN ASSEMBLY FOR VENTING OF WELD GASES. WHEN ASSEMBLY IS COMPLETE, FILL ALL VENT HOLES WITH ROSETTE WELD.
3. WELDING OF 4130 STEEL TO BE COMPLETED BY GTAW METHOD TO AMS 2685C. WELDING ROD SHALL CONFORM TO ER70S-2 OR EQUIVALENT.

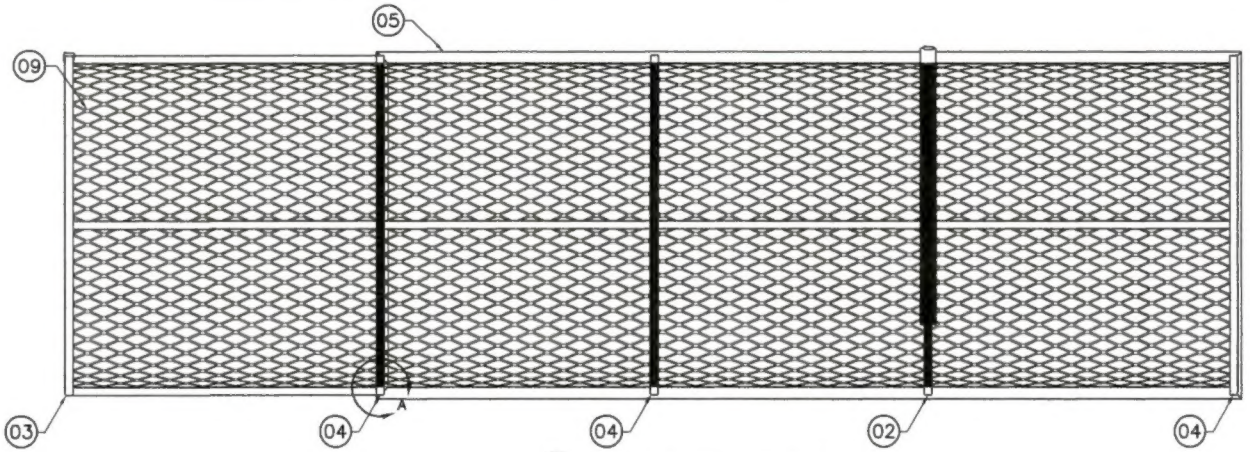
⚠1 INSTALL ITEM 7 (HANDLE BRACKET ASSEMBLY) IN ACCORDANCE WITH AERO DESIGN LTD. DRAWING 84262 TYP 2 PLACES.

⚠2 STRUT MEMBER ON FWD END OF BASKET ONLY.

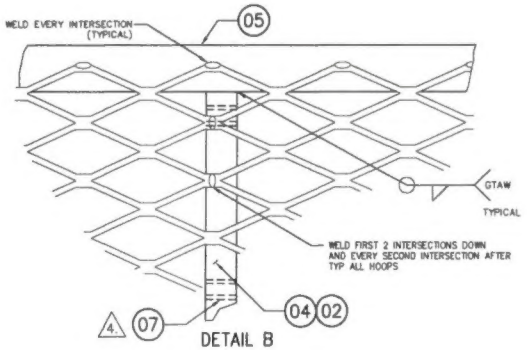
6. THOROUGHLY CLEAN AND POWDER COAT BASKET SUB-ASSEMBLIES PRIOR TO ASSEMBLY.



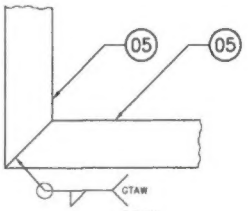
DETAIL C
SCALE 1:1
VIEW LOOKING AT FRONT RIM OF BAKSET



01 BASKET BODY ASSEMBLY



DETAIL B
SCALE 1:1
VIEW LOOKING AT INNER SURFACE OF BASKET, OUTBOARD SIDE



DETAIL A
SCALE 1:1

A/R	A/R						
1	1	3/4-16F	09	MESH	STEEL	COMMERCIAL	
1	1	49215-01	08	SPACER			
1	1	84262-01	07	HANDLE BRACKET ASSEMBLY			
A/R	A/R		06	TUBE	4130 STEEL, COND. N	MIL-T-6736	0.5 X 0.035 SQR. TUBE
A/R	A/R		05	TUBE	4130 STEEL, COND. N	MIL-T-6736	0.75 X 0.035 SQR. TUBE
3	3	49210-02	04	HOOP			
1		90622-01-02	03	FORWARD ATTACHMENT HOOP (LEFT HAND)			
	1	90622-01-01	03	FORWARD ATTACHMENT HOOP (RIGHT HAND)			
1		90621-01-02	02	AFT ATTACHMENT HOOP (LEFT HAND)			
	1	90621-01-01	02	AFT ATTACHMENT HOOP (RIGHT HAND)			
		90611-01-02	01	BASKET BODY ASSEMBLY (LEFT HAND)			
		90611-01-01	01	BASKET BODY ASSEMBLY (RIGHT HAND)			
-02	-01	PART NO.	ITEM	DESCRIPTION	MATERIAL	MATERIAL SPEC	STOCK SIZE
QTY	QTY	LIST OF MATERIALS					

APPROVALS		DATE
DRAWN:	JEFF CLARKE	03 SEPT 2010
CHECKED:	E. BURGOIN	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
TOLERANCES ON:
DECIMALS X.XXX ±0.010, X.XX ±0.03, X.X ±0.1
ANGLES ±1/2°

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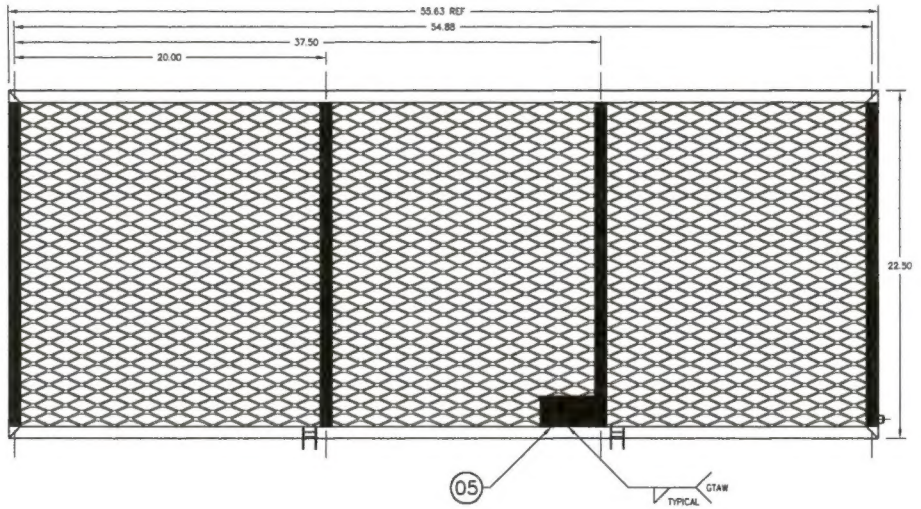
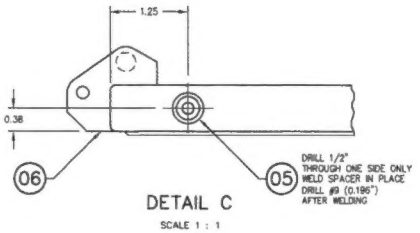
tel: (403) 250-8087 fax: (403) 250-8333 www.aerodesign.ca

ROBINSON R44, R44 II
QUICK RELEASE CARGO BASKET
BASKET BODY ASSEMBLY

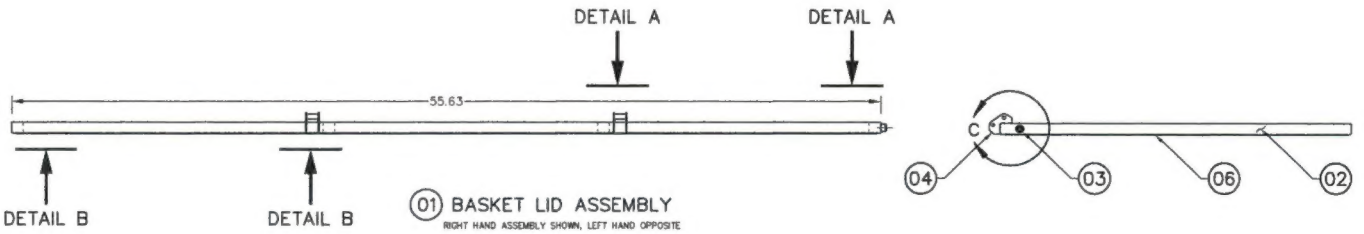
SCALE 1 : 4	DWG. SIZE	DWG. NO.	REV.
SHEET 1 OF 1	A1	90611	0

REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		

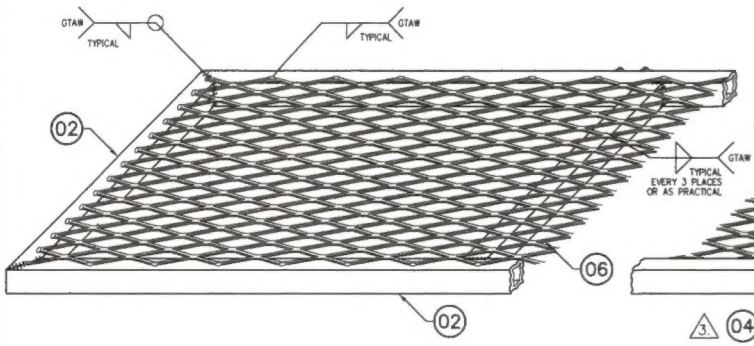




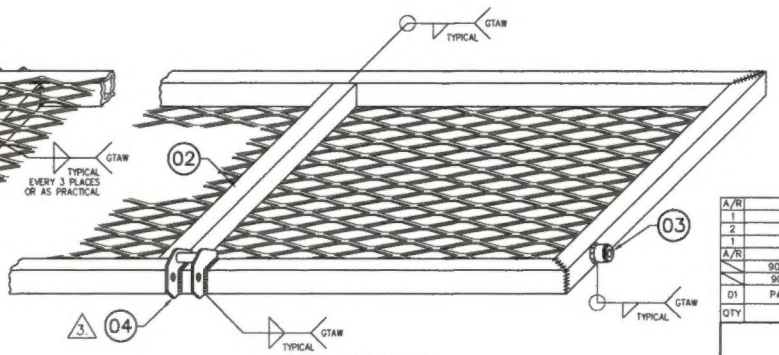
DETAIL C
SCALE 1 : 1



(01) BASKET LID ASSEMBLY
RIGHT HAND ASSEMBLY SHOWN, LEFT HAND OPPOSITE



DETAIL B
LOOKING AT BOTTOM



DETAIL A
LOOKING AT TOP

NOTES:
1. REMOVE ALL BURRS AND BREAK SHARP EDGES
2. WELDING OF 4130 STEEL TO BE COMPLETED BY GTAW METHOD TO AMS 2685C. WELDING ROD SHALL CONFORM TO ER70S-2 OR EQUIVALENT.
3. INSTALL ITEM 4 (HANDLE BRACKET ASSEMBLY) IN ACCORDANCE WITH AERO DESIGN LTD. DRAWING 84262 TYP 2 PLACES.
4. WHEN ASSEMBLY IS COMPLETE, FILL ALL VENT HOLES WITH ROSETTE WELD.
5. THOROUGHLY CLEAN AND POWDER COAT BASKET SUB-ASSEMBLIES PRIOR TO ASSEMBLY.

QTY	PART NO.	ITEM	DESCRIPTION	MATERIAL	MATERIAL SPEC	STOCK SIZE
			LIST OF MATERIALS			
A/R	3/4-16F	06	MESH			
1	36204-10	05	PLACARD BRACKET			
2	84262	04	UPPER HANDLE BRACKET ASSY			
1	49216-01	03	SPACER			
A/R	--	02	TUBE	4130 STEEL, COND. N	MIL-T-6736	0.75 X 0.035 SQR. TUBE
	90612-01-02	01	BASKET LID ASSEMBLY (LEFT HAND)			
	90612-01-01	01	BASKET LID ASSEMBLY (RIGHT HAND)			

APPROVALS		DATE
DRAWN:	JEFF CLARKE	03 SEPT 2010
CHECKED:	E. BURGOIN	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
TOLERANCES ON:
DECIMALS: X.XXX ±0.010; X.XX ±0.03; X.X ±0.1
ANGLES: ±1/2°

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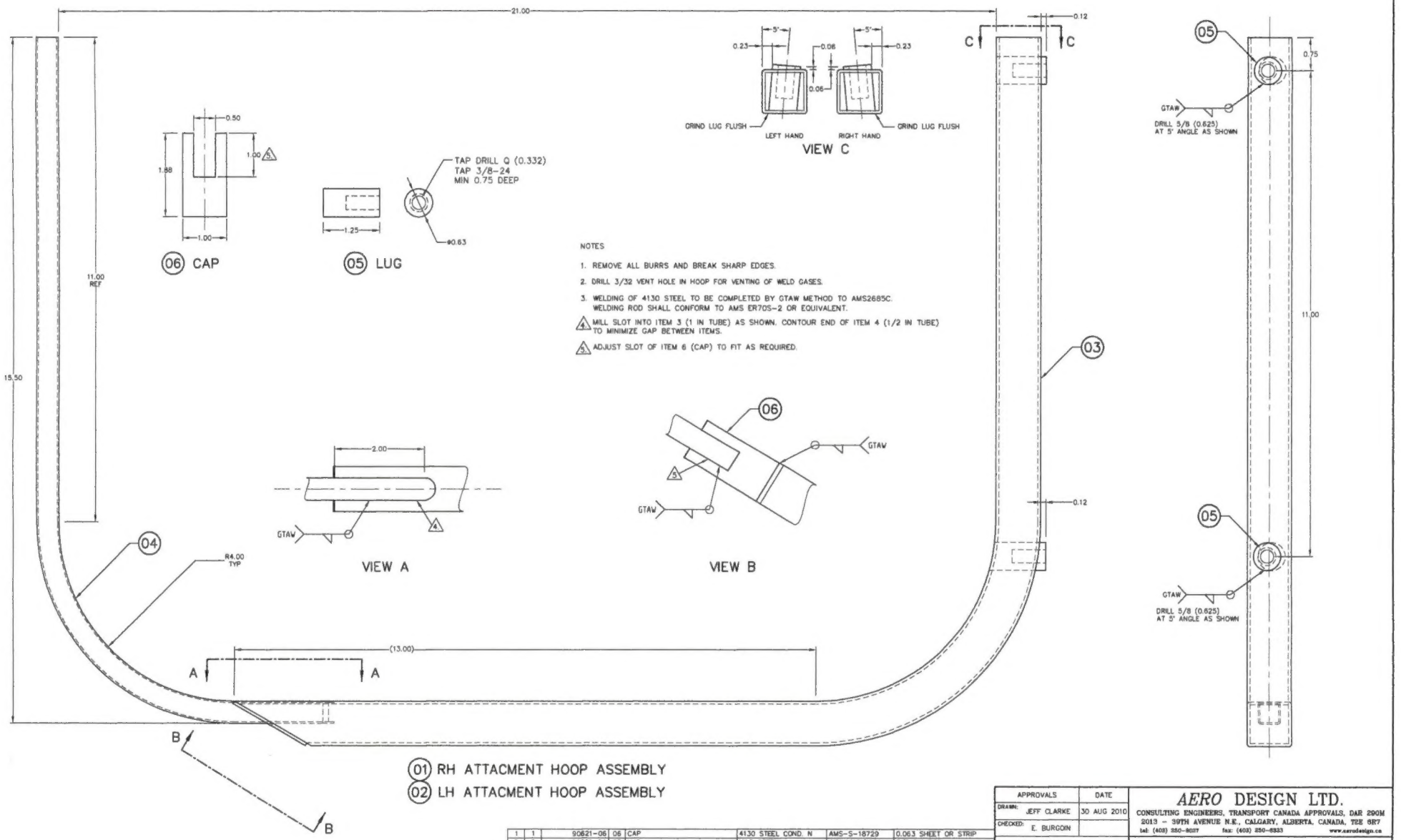
ROBINSON R44, R44 II
QUICK RELEASE CARGO BASKET
BASKET LID FABRICATION

SCALE	DWG. SIZE	DWG. NO.	REV.
1 : 4	A1	90612	0
SHEET 1 OF 1			

REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		



01 RH ATTACMENT HOOP ASSEMBLY
02 LH ATTACMENT HOOP ASSEMBLY

02 QTY	01 QTY	PART NO.	ITEM	DESCRIPTION	MATERIAL	MATERIAL SPEC	STOCK SIZE
1	1	90621-06	06	CAP	4130 STEEL COND. N	AMS-S-18729	0.063 SHEET OR STRIP
2	2	90621-04	05	LUG	MILD STEEL	AISI 1010/1020	5/8 DIA ROD
A/R	A/R		04	TUBE 1/2IN	4130 STEEL COND. N	MIL-T-6736	1/2 X 0.035 SQR TUBE
A/R	A/R		03	TUBE 1IN	4130 STEEL COND. N	MIL-T-6736	1 X 0.065 SQR TUBE
		90621-01-02	02	LH AFT ATTACHMENT HOOP ASSEMBLY			
		90621-01-01	01	RH AFT ATTACHMENT HOOP ASSEMBLY			

LIST OF MATERIALS

APPROVALS	DATE
DRAWN: JEFF CLARKE	30 AUG 2010
CHECKED: E. BURGOIN	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
TOLERANCES ON:
DECIMALS X.XXX ±0.010, X.XX ±0.03, X.X ±0.1
ANGLES ±1/2°

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ROBINSON R44
QUICK RELEASE CARGO BASKET
AFT ATTACHMENT HOOP FABRICATION

SCALE 1 : 1	DWG. SIZE	DWG. NO.	REV.
SHEET 1 OF 1	A1	90621	0

REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		

NOTES

1. ENGRAVE 0.007 DEEP AS FOLLOWS:
   "QUICK RELEASE BASKET" – 0.125 HIGH
   "ROBINSON R44 SERIES" – 0.080 HIGH
   "S/N 90601-XX" – 0.080 HIGH
   "MAXIMUM PERMISSIBLE LOAD" – 0.125 HIGH
   "175 LBS/80 KG" – 0.200 HIGH
   "AERO DESIGN LTD." – 0.125 HIGH
   "CALGARY, ALBERTA, CANADA" – 0.080 HIGH
   "403-250-8027" – 0.080 HIGH

2. ON 90627-02: S/N IS 90602-XX.

01 PLACARD

02 PLACARD

PART NO.	ITEM	DESCRIPTION	MATERIAL	MATERIAL SPEC	STOCK SIZE
90627-02	02	PLACARD	6061-T6 ALUMINUM	QQ-A-250/11	0.063 SHEET
90627-01	01	PLACARD	6061-T6 ALUMINUM	QQ-A-250/11	0.063 SHEET

LIST OF MATERIALS

APPROVALS	DATE
DRAWN: JEFF CLARKE	13 SEPT 2010
CHECKED: E. BURGOIN	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
TOLERANCES ON:

DECIMALS		ANGLES
X.XXX	±0.010	±1/2°
X.XX	±0.03	
X.X	±0.1	

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tel: (403) 250-8027 fax: (403) 250-8333 www.aerodesign.ca

ROBINSON R44, R44 II
QUICK RELEASE CARGO BASKET
PLACARD

SCALE 1 : 1	DWG. SIZE	DWG. NO.	REV.
SHEET 1 OF 1	A1	90627	0